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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,215	06/03/2002	Fulvio Margherita	3606-0120P	4789

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MEHRPOUR, NAGHMEH

ART UNIT PAPER NUMBER

2686

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/048,215

Applicant(s)

MARGHERITA ET AL.

Examiner

Naghmeh Mehrpour

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/30/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed reference listed in the information Disclosure Submitted on 01/30/02 have been considered by the examiner (see attached PTO-1449)

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. **Claims 1-9, 12-18**, are rejected under 35 U.S.C. 102(e) as being anticipated by Tanoue et al. (US Patent 6,041,238).

Regarding **claim 1**, Tanoue teaches a method for the dynamic allocation of radio channels in digital telecommunication networks with time division duplex access (TDD is a method used in cellular network of employing TDMA), the radio channels being associated to radio signals divided into frames having a pre-determined duration and each frame is divided into a pre-determined number of timeslots (col 2 lines 50-667) which are assigned priority values based values on and/or quality measures of channels each communication service employing a number channels a time characterized in that includes the following operational steps:

a) measuring the path loss of the signal with which the communication service has been requested (col 3 lines 7-20);

b) allocating the number of channels of the communication service in a timeslot having a priority value increasing with the path loss of the number of channels signal, in such a way that the se allocating in timeslots having priority values increasing with the path loss of the signal (col 3 lines 20-65).

Regarding **claim 2**, Tanoue teaches a method according to claim 1, characterized in that each request for a communication service the services employing the same number

of channels of the requested service are reordered in such way that the attenuation increases with priority values (col 3 lines 20-65).

Regarding **claim 3**, Tanoue inherently teaches a method according to claim 2, characterized that includes an allocation algorithm including the following operational steps:

first searching, starting from timeslots with highest priority values, a time slots with a number of free channels equal to the number of channels of the requested service (col 3 lines 20-37);

second searching, starting timeslots with priority values higher than that the timeslot found with the first search, a communication service having the same number of allocated channels (col 3 lines 38-50);

comparing the path loss values of the signals of the requested communication service and of communication service found with the second search (col 3 lines 45-65);

allocating, according to the result of this comparison, one these communication services in the timeslot having said number of free channels (col 3 lines 66-67, col 4 lines 1-4).

Regarding **claim 4**, Tanoue teaches a method according to claim 3, characterized in that said algorithm is reiterated according the result of said comparison between the attenuation values the signals of the requested communication service and of the communication service found with the second search (col 4 lines 5-510).

Regarding **claim 5**, Tanoue teaches a method according to claim 3, characterized that is searched, starting from timeslots with priority values higher than that of the timeslot found with this first search, the communication service whose signals show the lower attenuation among the communication services having the same number timeslot channels allocated in the same (col 3 lines 1-50).

Regarding **claim 6**, Tanoue teaches a method according to claim 1, characterized in that at each release of communication service are reordered according increasing priority values the services employing the same number of channels of the service released (col 3 lines 1-67, col 4 lines 1-50).

Regarding **claim 7**, Tanoue teaches a method according to claim 6, characterized in includes a release algorithm including the following operational steps:

third searching among the timeslots lower than that the timeslot with priority values the released communication service, timeslot in which at least a communication service having the same number of channels of the communication service released allocated (col 3 lines 1-67);

allocating in the timeslot of the released communication service the communication service characterized by the highest attenuation among the services employing channels in the timeslot found with the third search (col 4 lines 1-50).

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Regarding **claim 8**, Tanoue teaches according to claim 7, characterized in that said third searching and allocating steps the release algorithm are performed as in the following:

third searching, among the timeslots with lower than that communication service, timeslot which at least communication service employing number channels lower than that of the communication service released priority values the timeslot of the released allocated (col 3 lines 1-67, col 4 lines 50);

allocating in the timeslot of the released communication service the communication service characterized by the lower attenuation among the services employing channels in the timeslot found with the third search (col 4 lines 1-50).

Regarding **claim 9**, Tanoue teaches a method of claim 7, allocating in the algorithm is reiterated starting from the last timeslot of communication service (col 3 lines 1-67, col 4 lines 1-50).

Regarding **claim 12**, Tanoue teaches system for the dynamic allocation of radio channels in digital telecommunication with time division duplex access (TDD is a method used in cellular network of employing TDMA) (col 2 lines 50-66), the system including at least one base station for the reception and transmission of radio signals associated to the radio channels from/to a plurality of user equipment the radio signal being divided in frames having pre-determining duration and each frame being divided into a pre-determined number of timeslots (col 2 lines 5-33), which are assigned priority

values based on interference and/or quality measures of channels (col 3 lines 1-38), each communication service employing a particular number of said channels at a time, characterized in that said base station includes means for the measurement of the path loss of the signal with which said communication service has been requested, as well as a control processor suitable to implement all the steps of the method according to one of the previous claims (col 3 lines 38-65).

Regarding **claim 13**, Tanoue teaches a network using time division duplex access for processing radio signals comprising:

- a plurality of frame, wherein each of the plurality of frames comprises:

- a plurality of timeslots and each of the timeslots comprises a plurality of channels (col 2l lines 5-35), a method for the dynamic allocation of a set of channels to each of a plurality of communication services in response to a plurality of communication service requests each having a path loss (col 2 lines 38-65) comprising the steps of:

- determining priority values for each of the timeslots (col 3 lines 1-38);

- determining a path loss for each of the plurality of communication service requests (col 3 lines 20-65); and

- assigning a communication service associated with the communication request having the highest path loss to the timeslot having highest priority (col 3 lines 65-67, col 4 1-50).

Regarding **claim 14**, Tanoue teaches a method including the additional step of assigning a communication service associated with the communication request having the second highest path loss to the timeslot having the second highest priority (col 3 lines 45-65).

Regarding **claim 15**, Tanoue inherently teaches a method the additional steps of:

- determining a size of the set of channels required by a given communication services (col 3 lines 2-38);

- determining whether a set of channels of the size has previously been allocated to another communication services (col 3 lines 39-65);

- comparing the path loss of the given communication service to the path loss of the another communication service (col 3 lines 45-65); and

- assigning set of channels to the given communication service and the another communication service such that the one of the given communication service and the another communication service having higher path loss is assigned to the timeslot having the higher priority (col 3 lines 65-67, col 4 lines 1-50).

Regarding **claim 16**, Tanoue teaches a method including the additional step of

- determining a size of the set of channels required by a given communication service (col 2 lines 2-38);

- searching the timeslots in order of decreasing priority value to locate a first timeslot having a free set of channels having the size (col 3 lines 39-65);

If a first slot having a free set of channels having the size is located, searching for at least one second timeslot having priority values higher than the priority value of the first timeslot having a set of allocated channels having the size (col 3 lines 65-67, col 4 lines 1-50);

If at least one second timeslot having a priority value higher than the priority value of the first timeslot and a set of allocated channels having the size is located, comparing the path loss of the given communication service with the path loss of a communication service using the at least one second timeslot; and allocating the first timeslot and the at least one second timeslot based on a result of the comparing the path loss step (col 3 lines 2-67, col 4 lines 1-50).

Regarding **claim 17**, Tanoue teaches a method wherein step of allocating the first timeslot and the at least second timeslot based on a result of the comparing the path loss step comprises the steps of:

if the path loss of the given communication service is greater than the path loss of the communication service using the at least one second timeslot, allocating the at least second timeslot to the given communication service (col 3 lines 45-67, col 4 lines 1-50).

Regarding **claim 18**, Tanoue teaches a method including the additional step of reallocating timeslots after a release of the given communication service or ther another communication service (col 2 lines 50-67, col 3 lines 1-65).

Allowable Subject Matter

5. Claims 10-11, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Parantainen et al. (US Patent 6,246,881 A1) disclose method of channel allocation

Olofsson et al. (US Patent 6,157,627) disclose channel allocation for mixed multislot services

7. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 571-272-7913. The examiner can normally be reached on 8:00- 6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (571) 272-7905.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

July 15, 2005



MELODY MEHRAPOUR
PATENT EXAMINER